

B<sub>1</sub>

--Figure 7A-7D--

On page 27, please delete line 31 and replace it with the following:

B<sub>2</sub>

--Figure 8A-8B--

On page 28, please delete line 5 and replace it with the following:

B<sub>3</sub>

--Figure 10A-10B--

On page 28, please delete lines 22-24 and replace them with the following:

B<sub>4</sub>

--Figure 13

Amino acid sequence (SEQ ID NO: 26) of the mutant human MCH1 receptor encoded by plasmid R106.--

On page 28, please delete lines 26-28 and replace them with the following:

--Figure 14

B<sub>5</sub>

Amino acid sequence (SEQ ID NO: 27) of the mutant human MCH1 receptor encoded by plasmid R114.--

On page 28, please delete lines 30-32 and replace them with the following:

--Figure 15

B<sub>6</sub>

Amino acid sequence (SEQ ID NO: 28) of the mutant human MCH1

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CNT  
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receptor encoded by plasmid B0120.--

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Please delete the paragraph on page 34, line 34, through page 35, line 2, and replace it with the following:

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B7

--In one embodiment, the mutant human MCH1 receptor comprises an amino acid sequence as shown in Figure 13 (SEQ ID NO: 26). In another embodiment, the mutant human MCH1 receptor comprises an amino acid sequence as shown in Figure 14 (SEQ ID NO: 27). In still another embodiment, the mutant human MCH1 receptor comprises an amino acid sequence as shown in Figure 15 (SEQ ID NO: 28).--

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Please delete the paragraph on page 42, line 21, through page 43, line 36, and replace it with the following:

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B8

--This invention provides a process for identifying a chemical compound which specifically binds to a mammalian MCH1 receptor which comprises contacting cells comprising DNA encoding, and expressing on their cell surface, the mammalian MCH1 receptor, with the compound under conditions suitable for binding, and detecting specific binding of the chemical compound to the mammalian MCH1 receptor, wherein the cells do not normally express the mammalian MCH1 receptor and the DNA encoding the mammalian MCH1 receptor (a) hybridizes to a nucleic acid having the defined sequence shown in Figure 1 (SEQ ID NO: 1) under low stringency conditions or a sequence complementary thereto and (b) is further characterized by its ability to cause a change in the pH of a culture of CHO cells when a MCH1 ligand is added to the culture and the CHO cells contain the nucleic acid which hybridized to the nucleic acid having the defined sequence or its complement. This invention also provides a process for identifying a chemical compound which specifically binds to a mammalian MCH1 receptor which comprises contacting a membrane

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preparation from cells comprising DNA encoding, and expressing on their cell surface, the mammalian MCH1 receptor, with the compound under conditions suitable for binding, and detecting specific binding of the chemical compound to the mammalian MCH1 receptor, wherein the cells do not normally express the mammalian MCH1 receptor and the DNA encoding the mammalian MCH1 receptor (a) hybridizes to a nucleic acid having the defined sequence shown in Figure 1 (SEQ ID NO: 1) under low stringency conditions or a sequence complementary thereto and (b) is further characterized by its ability to cause a change in the pH of a culture of CHO cells when a MCH1 ligand is added to the culture and the CHO cells contain the nucleic acid which hybridized to the nucleic acid having the defined sequence or its complement. In one embodiment, the MCH1 receptor is a human MCH1 receptor. In another embodiment, the MCH1 receptor is a rat MCH1 receptor. In another embodiment, the mammalian MCH1 receptor comprises substantially the same amino acid sequence as the sequence of the human MCH1 receptor encoded by plasmid pEXJ.HR-TL231. In a further embodiment, the mammalian MCH1 receptor comprises substantially the same amino acid sequence as that shown in Figure 2 (SEQ ID NO: 2). In another embodiment, the mammalian MCH1 receptor comprises the amino acid sequence shown in Figure 2 (SEQ ID NO: 2). In a different embodiment, the mammalian MCH1 receptor comprises the amino acid sequence shown in Figure 13 (SEQ ID NO: 26). In another embodiment, the mammalian MCH1 receptor comprises the amino acid sequence shown in Figure 14 (SEQ ID NO: 27). In still another embodiment, the mammalian MCH1 receptor comprises the amino acid sequence shown in Figure 15 (SEQ ID NO: 28). In one embodiment, the compound is not previously known to bind to a mammalian MCH1 receptor. This invention further provides a compound identified by the above-described processes.--

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on page 74, please delete the paragraph from line 4 to line 19 and replace it with the following paragraph:

B<sub>9</sub> --A short form of the human MCH1 receptor expressing only the most downstream of the three potential initiating methionines was generated as follows. TL231 was amplified with BB1122 (a forward primer beginning 10 nucleotides upstream of the third methionine in TL231, and also incorporating a *HindIII* site) and BB1123 (a reverse primer in the second transmembrane domain) and the resulting product digested with *HindIII* and *BglII*A. PCR was performed with the Expand Long Template PCR System (Roche Molecular Biochemicals, Indianapolis, IN) under the following conditions: 20 seconds at 94°C, 1 minute at 68°C for 40 cycles, with a pre- and post-incubation of 5 minutes at 94°C and 7 minutes at 68°C respectively. The 270 bp product was gel purified and ligated to a 4 kb *HindIII/BglII* restriction fragment from TL231. The resulting construct was named B0120.--

On page 74, please delete the paragraph at lines 24-25 and replace it with the following:

B<sub>10</sub> --BB1122 5'- TGACACTAAGCTTCACTGGCTGGATGGACCTGGAAGC -3' (SEQ ID NO: 24)--

On page 74, please delete line 27 and replace it with following:

B<sub>11</sub> --BB1123 5'- GCCCAGGAGAAAGAGGAGATCTAC -3' (SEQ ID NO: 25)--

On page 99, please delete the paragraph from line 12 to line 18 and replace it with the following paragraph:

B<sub>12</sub> --Several additional compounds were tested for their ability to activate MCH1. No dose-responsiveness of inositol phosphate formation could be detected in Cos-7 cells transfected with MCH1 when challenged with somatostatin, haloperidol, or dynorphin A1-13, discounting the possibility that MCH1 encodes a somatostatin-

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cr<sup>+</sup>  
B<sub>12</sub> like or opioid-like or sigma-like GPCR subtype (Figure 7A-7D).--

On page 99, please delete the paragraph from line 21 to line 29 and replace it with the following paragraph:

B<sub>13</sub> --CHO cells were transiently transfected with MCH1 using lipofectant, challenged with increasing concentrations of MCH or Phe<sup>13</sup>,Tyr<sup>19</sup>-MCH, and subsequently monitored for changes in extracellular acidification rates. Both ligands produced a dose-dependent increase in acidification rate with an EC<sub>50</sub> value of 8.6 nM for MCH and 51.8 nM for Phe<sup>13</sup>,Tyr<sup>19</sup>-MCH. Neither native CHO cells or mock (pEXJ) transfected CHO cells exhibited a change in acidification rate when exposed to MCH or Phe<sup>13</sup>,Tyr<sup>19</sup>-MCH (Figure 8A-8B).--

On page 100, please delete the paragraph from line 8 to line 14 and replace it with the following paragraph:

B<sub>14</sub> --Membranes harvested from Cos-7 cells transfected with MCH1 by the DEAE-dextran method exhibited specific binding for [<sup>125</sup>I]Phe<sup>13</sup>-Tyr<sup>19</sup>-MCH (about 80 fmol/mg membrane protein) over mock-transfected cells (about 20 fmol/mg membrane protein) at 0.1 nM radioligand concentration. Specific [<sup>125</sup>I]Phe<sup>13</sup>-Tyr<sup>19</sup>-MCH binding was about 70% of total binding at a radioligand concentration of 0.1 nM (Figure 10A-10B).--

Applicants attach hereto as **Exhibit 1** a marked-up version of the specification showing the changes made.

Please replace the current Sequence Listing with the Sequence Listing attached hereto as **Exhibit A**.

In the Claims: